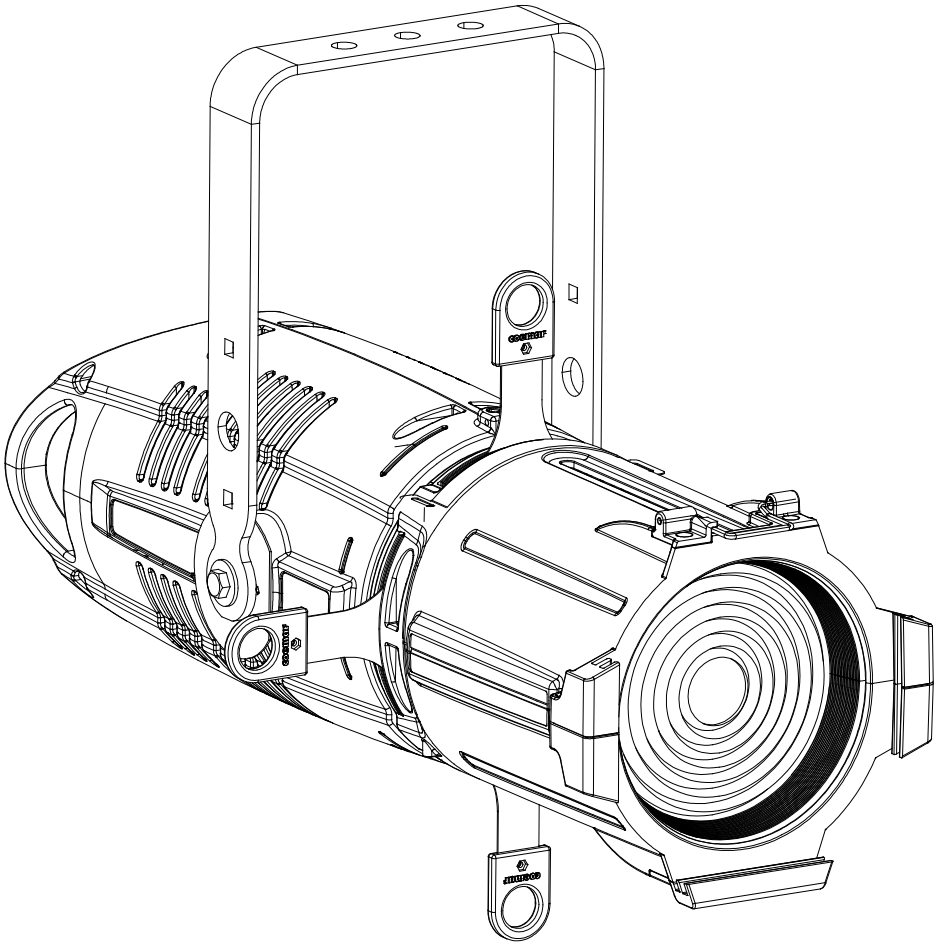
REFLECTION LEDko™ P



Instruction manual
Manuale di istruzioni

Ver. 1.0
DIS151

coemar
LIGHT EMOTION

Serial number/numero di serie

Date of purchase/data di acquisto

Retailer/fornitore

Address/indirizzo

Suburb/cap/città

Capital city/provincial

State/stato

Tel./fax

Please note in the space provided above the relative service information of the model and the retailer from whom you purchased your **Reflection LEDko P** : this information will assist us in providing spare parts, repairs or in answering any technical enquiries with the utmost speed and accuracy.

Prendete nota, nello spazio apposite, dei dati relative al modello e al rivenditore del vostro **Reflection LEDko P** questi dati ci permetteranno di assistervi con la massima rapidità e precisione.

WARNING: the security of the fixture is granted only if these instructions are strictly followed; therefore it is absolutely necessary to keep this manual.

ATTENZIONE: la sicurezza dell'apparecchio è garantita solo con l'uso appropriato delle presenti istruzioni, pertanto è necessario conservarle.

User Manual Version 1.0
edition July, 2012

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English

Thank you for having purchased a Coemar product. You have assured yourself of a fixture of the highest quality, both in the componentry and in the technology used. We renew our invitation to you to complete the service information form on the previous page. This will assist in providing prompt and accurate advice from your Coemar service centre, which you can thoroughly trust and to which you can submit any requests for service or information. Following the instructions and procedures outlined in this manual will ensure the maximum efficiency of this product for years to come.

1.Packaging and transportation

1.1 Packaging

Open the packaging and make sure that no part of the equipment has suffered any damage during the transportation. In case of damage to the fixture, contact your currier and your supplier immediately by telephone, fax or email, and inform them you will formally notify them in writing through registered letter.

Packing List

Make sure the packaging contains:

1 **Reflection LEDko P**

2 This instruction manual.

3-main power plugs

1.2 Trasportation

Reflection LEDko P must be transported exclusively in its original packaging or in an appropriate flight case.

2. General information

2.1 Important safety information.

Fire prevention:

1.Never locate the fixture on any flammable surface.
2.Minimum distance from flammable materials: 0,5m.
3.Minimum distance from the closet illuminable surface: 0,5m.
4. Connect the projector to mains power protected by a thermal magnetic circuit breaker.

Preventing from electric shock.

1. Presence of high voltage inside of the fixture. Insulate the projector from mains supply before opening or performing any function which involves touching the inside of the fixture, including lamp replacement..
2. For the connection to the mains, adhere strictly to the guidelines outlined in this manual.
3. The level of technology of **Reflection LEDko P** requires the use of specialised personnel for all service applications; refer all work to your authorised **Coemar** service centre.
4. A good earth connection is essential for the proper functioning of the projector. Never connect the fixture if there is no earth connection.
5.Mains cables must not come into contact with other cables.
6.Do not operate the projector with wet hands or in an area where water is present.
7.The fixture must never be located in an exposed position, or in areas of extreme humidity.

Safety.

1. The projector must always be installed with bolts, clamps, or other fixing devices which are suitably rated to support the weight of the projector.
2. Always use a secondary safety fixing device with chain or steel wire of a suitable rating to sustain the weight of the unit in case of failure of the principal fixing point.
3. The external surfaces of the unit, at various points, may reach 60°C. Never handle the unit until at least 10 minutes have elapsed since the lamp was turned off
4. Never install the fixture in an enclosed area lacking sufficient air flow; the room temperature must not exceed 35°C.
5. The projector contains electronic and electrical components which must under no circumstances be in contact with water, oil or any other liquid. Failure to do so will compromise the proper functioning of the projector.

2.2 Warranty conditions

1. The fixture is guaranteed for a period of 12 months from the date of purchase against manufacturing or materials defects.
2. The warranty does not extend to damage caused by inappropriate usage, use by inexperienced operators or inadequate maintenance.
3. The warranty is immediately void if the projector has been tampered or opened by unauthorized personnel.
4. The warranty does not extend to fixture replacement.
5. Both the serial number and the model of the projector are required for any advice or service from your authorised service centre.

2.3 EC Norms

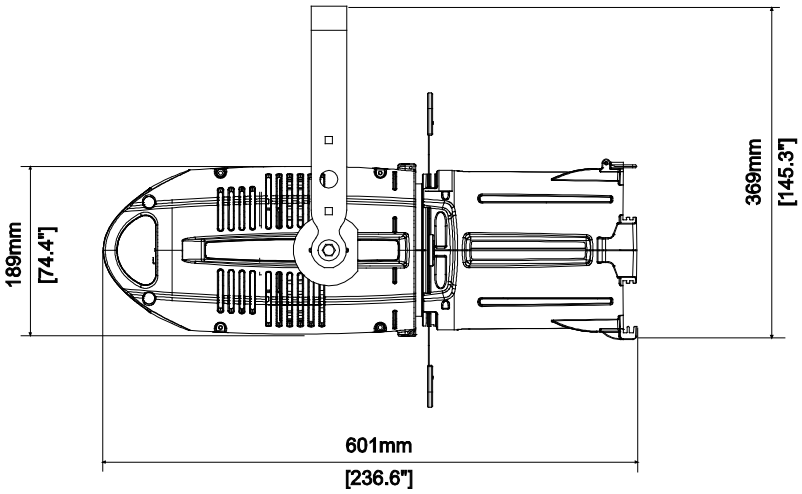
The projector meets all fundamental applicable EC requirements.

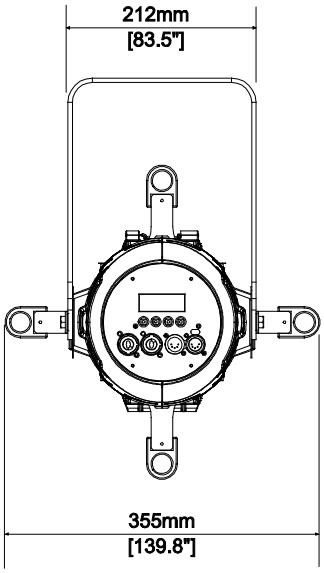
3. Product specifications

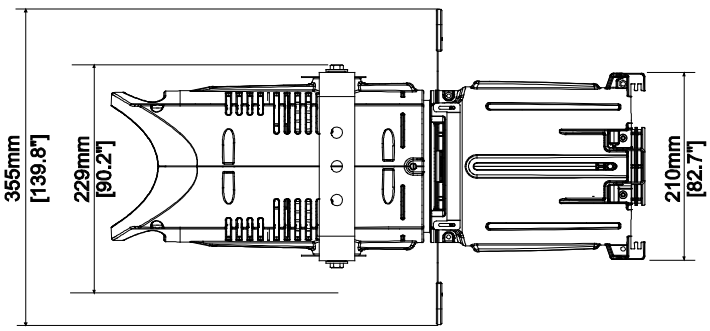
3.1 Technical characteristics

Power	90-250 Vac 50/60Hz Autosensing
Maximum current	0,67A @230 Vac, - 1,76 A @90VAC
Power factor	Cos φ = 0,9
Light source wattage	140 W
Maximum room temperature	35°C/95°F
Weight	5 Kg./11.2 lbs (main body)
Grado di protezione	IP20

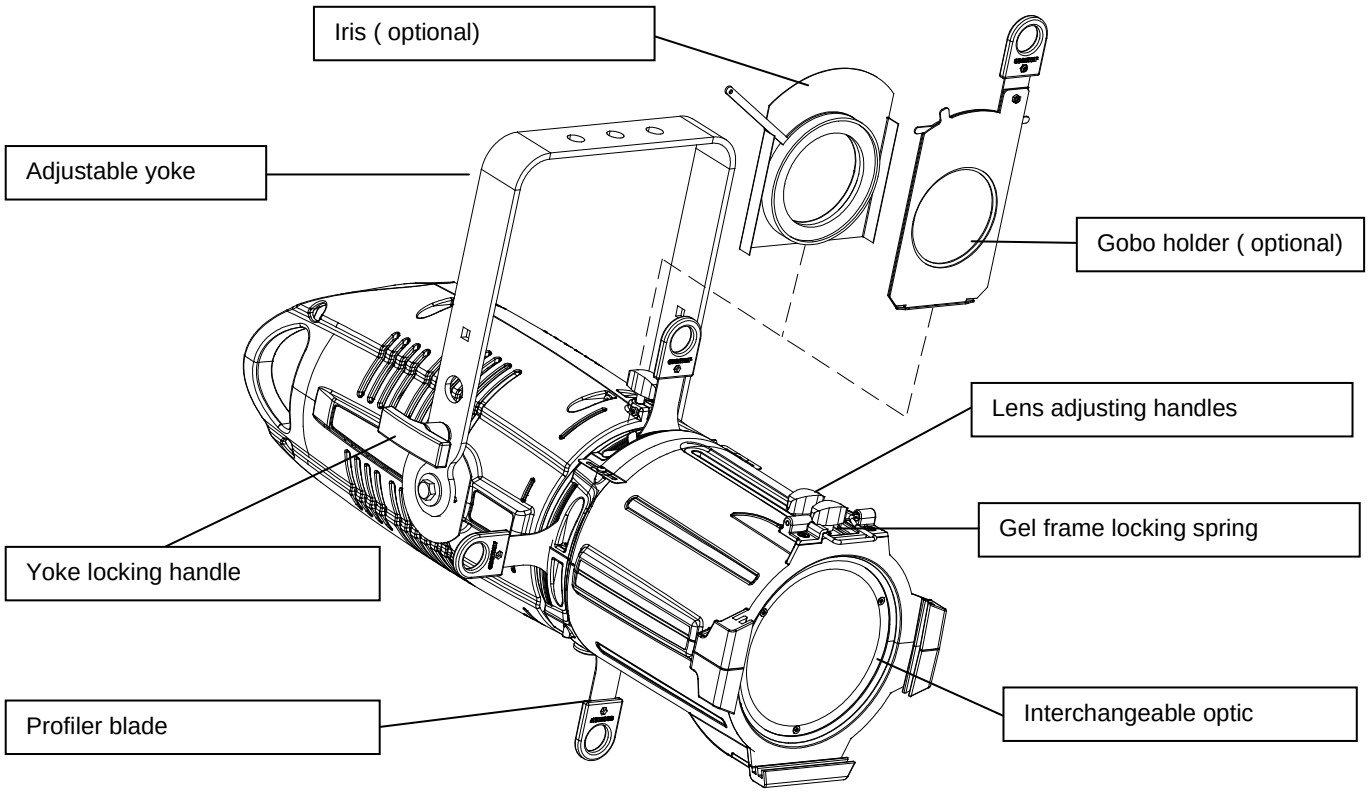
3.2 Dimensions



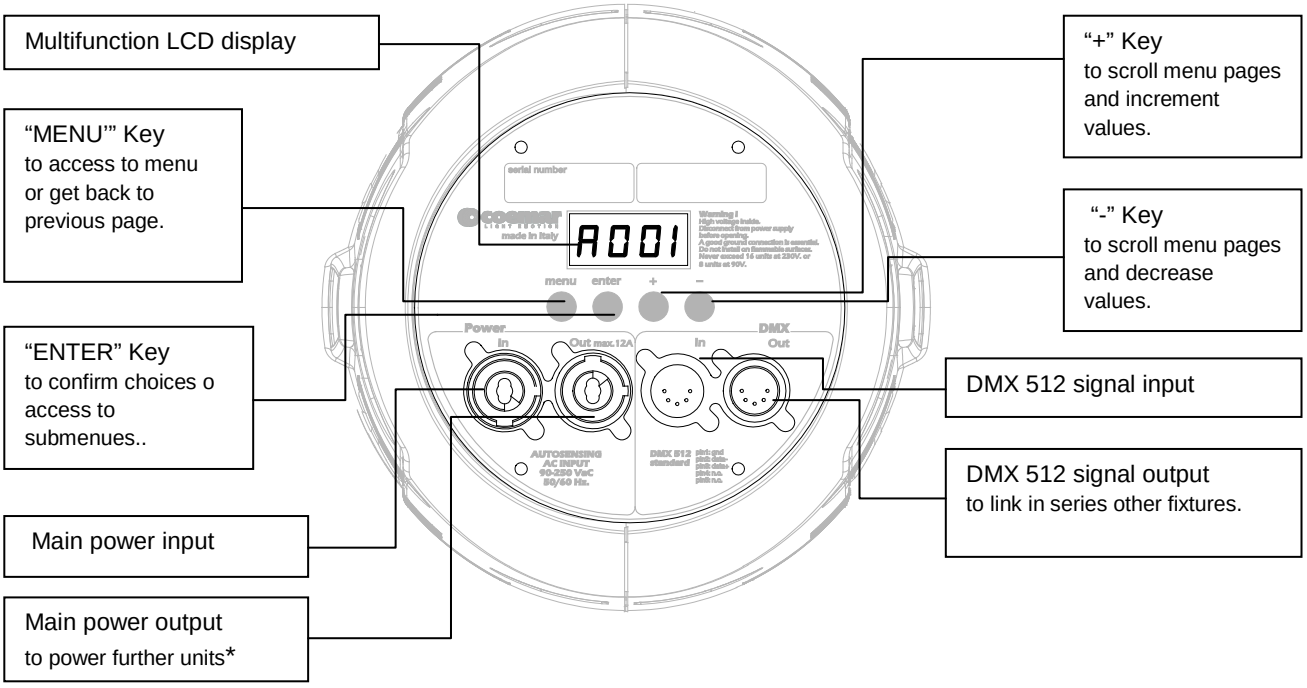




3.3 Unit's main components

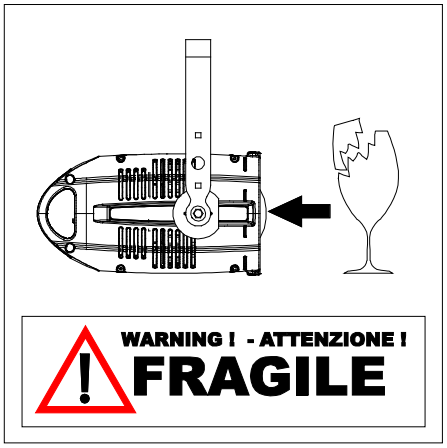


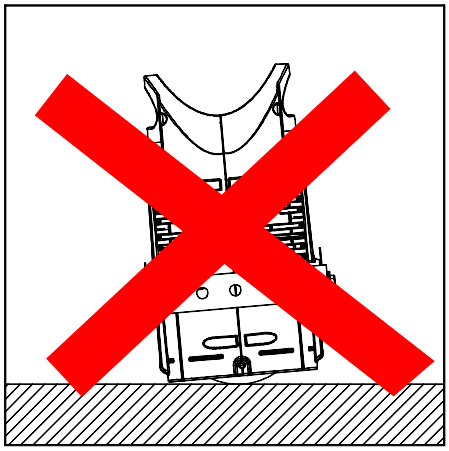
3.4 Rear panel, description

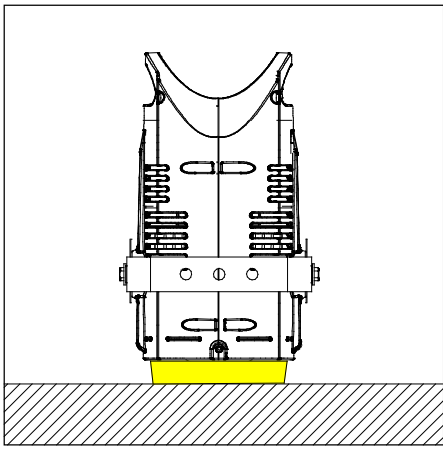


*Do not link more than 16 units @ 230V. or more than 8 units @ 90V.

WARNING! Never park the projector which hasn't installed optical without the dust cap.

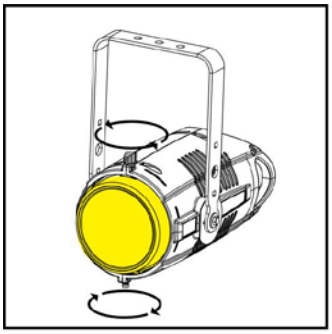


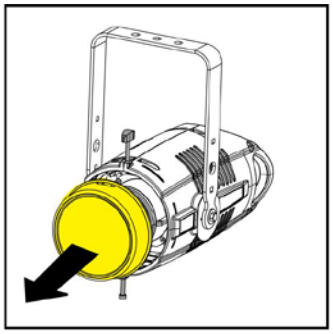


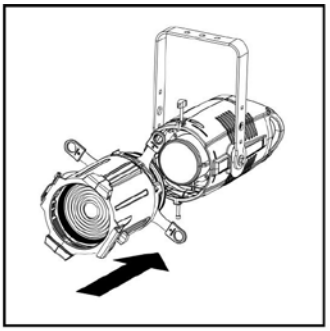


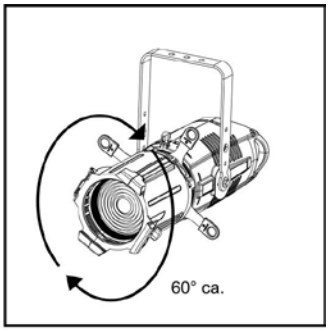
4. Installation

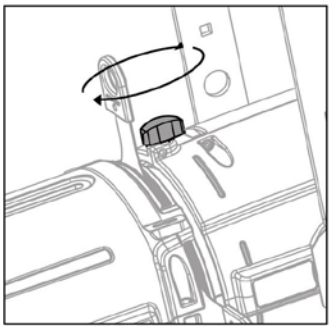
4.1 Optical installation

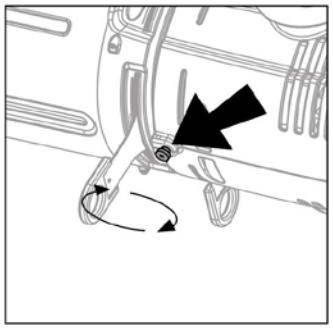


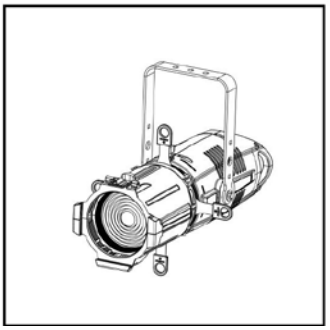








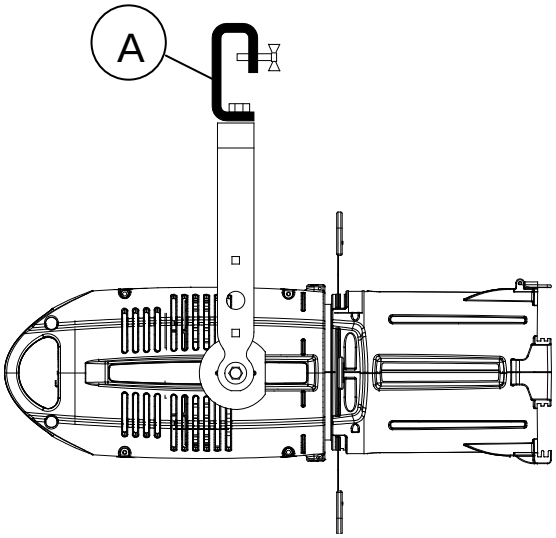




Remove the frontal cap by loosening the upper and lower screws enough to free the cap itself, set the optic's flange tilted about 60°. Insert the optic's flange into the body's receptacle and turn the optic 60° until it is firmly assembled to the projector body, free to rotate but not free to detach itself from the body. Ensure the optic to the body by tightening the two screws previously loosened.

4.2 Mechanical installation

Reflection LEDko P may be hung from an appropriate structure in any position or on tripode.
If hanging the fixture from a lighting truss or similar, we recommend the use of an appropriate clamp “A”, as shown in the following diagram.

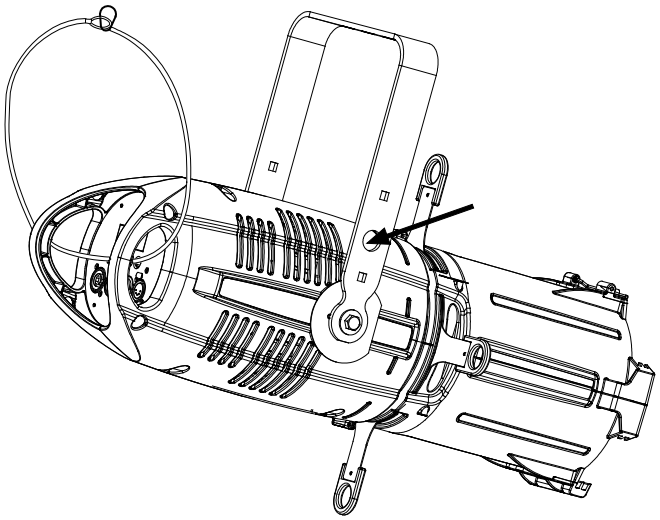


WARNING!
Always ensure that your support structure and fixing (bolts, clamps, etc…)
are rated to support the weight of the fixture.

4.3 Safety chain

When hanging **Reflection LEDko P** it is recommended to use a safety chain, as required by current legislation. The safety chain must pass through the handles of the unit and then attached to the structure.

If using steel cables and chains not Coemar's production, make sure they are suitable to support the weight of the unit according to normative UL/ETL (required: the weight of 6 complete devices for at least one hour)



4.4 Adjusting unit’s tilt

In order to adjust the tilt of the unit simply loose the side handle adjust the tilt and lock the yoke by tightening the handle again.

5. Powering up

5.1 Operating voltage and frequency.

The unit may operates at voltages ranges from 90 to 250VaC at a frequency of 50 or 60 Hz. It is not needed to effect any setup procedures: **Reflection LEDko P** will automatically adjust its operation to suit any frequency or voltage within this range.

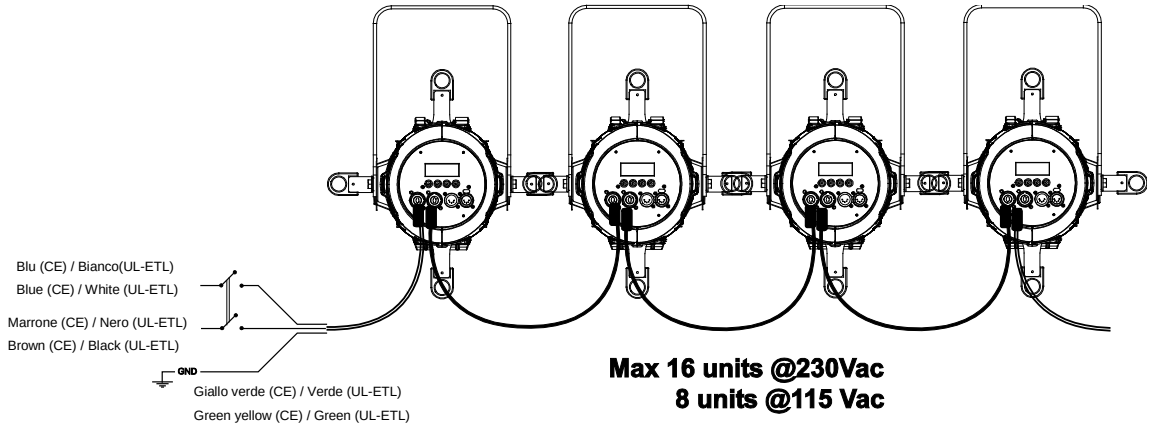
5.2 Connection to mains power

Mains cable characteristics
The mains cable provided is thermally resistant, complying to the most recent International standards.
Note: in case of cable replacement, similar cable with comparable thermal resistant qualities must be used exclusively (cable 3 X 1,5 ø external 10 mm, rated 300/500V, tested to 2 KV, operating temperature -40°C + 180°C, **Coemar** cod. CV5311).
Connection to mains power
Reflection LEDko P is equipped with two power connectors, one as input and one as output, which can be used to connect more fixtures in series (no more than 16 units @ 230V or 8 units @ 115V.).
The max absorption of **Reflection LEDko P** is reported in the following table:

-230/240V 0,67 A constant during normal exercise.
-90V 1,76 A constant during normal exercise.

WARNING !
Never link more than 16 units at 230 V or 8 units at 90 V.

In the following figure you can see an example of series connection:


Blu (CE) / Bianco(UL-ETL)
Blue (CE) / White (UL-ETL)
Marrone (CE) / Nero (UL-ETL)
Brown (CE) / Black (UL-ETL)
GND
Giallo verde (CE) / Verde (UL-ETL)
Green yellow (CE) / Green (UL-ETL)
Max 16 units @230Vac
8 units @115 Vac

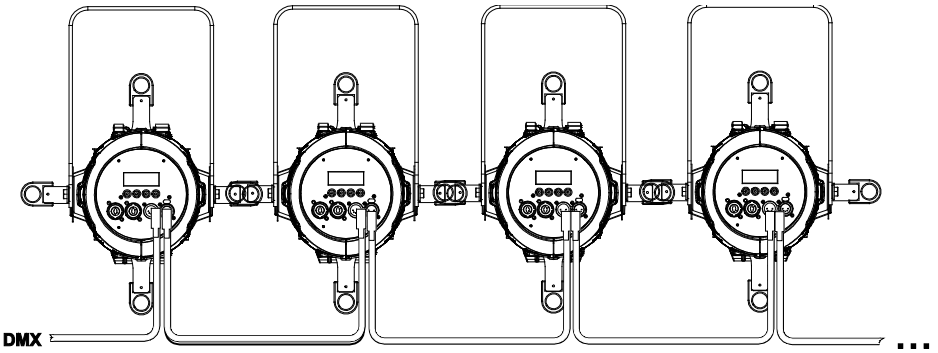
WARNING!

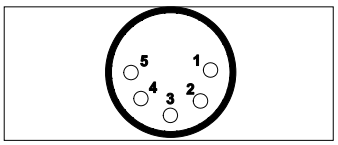
• The use of a thermal/magnetic circuit breaker is recommended. Strict adherence to regulatory norms is strongly recommended.
• Reflection LEDko P should not be powered through a dimmer as this may damage the internal switching power supply.
• Prior to connecting the device to mains power, ensure that the mains characteristics are within the recommended range for use with Reflection LEDko P.
• All cabling and connections should be carried out by suitably qualified personnel.

6. Control signal connections

6.1 Control signal connection by XLR5 plugs.

The digital control signal is transmitted to the projector via a two pole cable screened as per International standards for the transmission of DMX 512 data. The connection must be serial, using connectors XL5 male and female located on the back of **Reflection LEDko P** labelled DMX512 IN e OUT (see diagram).





Pin 1= GROUND
Pin 2= DATA-
Pin 3= DATA+
Pin 4 =nc
Pin 5 =nc

WARNING !
Make sure that screening and conductors are not in contact one another or with the metal housing of the connector. Pin#1 and housing never must be connected to the power supply unit.

7. Turning on the projector

After having followed the preceding steps described, proceed with the power supply and turn on the projector connecting it to the mains power.
The software version installed on the internal microprocessors will be shown on the display, suddenly it will show the current DMX addressing. If the address blinks, it means that the DMX signal has not been received. Check the connection cable and the mixer functioning.

7.1 DMX address of the unit

Each projector can use up to 5 address channels for its complete operation and is controlled by a DMX 512 signal (for further information, see section 7.2, DMX functions).

DMX addressing

When powered up initially, each projector will show A001, which indicates DMX address 001; for example. A second unit must be addressed as A006,a third one as A011 and so on. The operation must be carried out on every **Reflection LEDko P** which has an address different from A001..

Altering DMX address.

1. Press the + or – button until the display shows the required DMX address. The digits on the display will blink to indicate that the variation has not been registered.
2. Press the *enter* key to confirm your selection. The digits on the display panel will cease to blink and the projector will now respond to the new address.

Note: by holding the + or – button down the scrolling will be faster; thus allowing a faster selection

WARNING!
If you alter the DMX address with no DMX signal connected, the digits on the display panel will continue to flash even after you have pressed ENTER button to confirm the address.

7.2 DMX functions

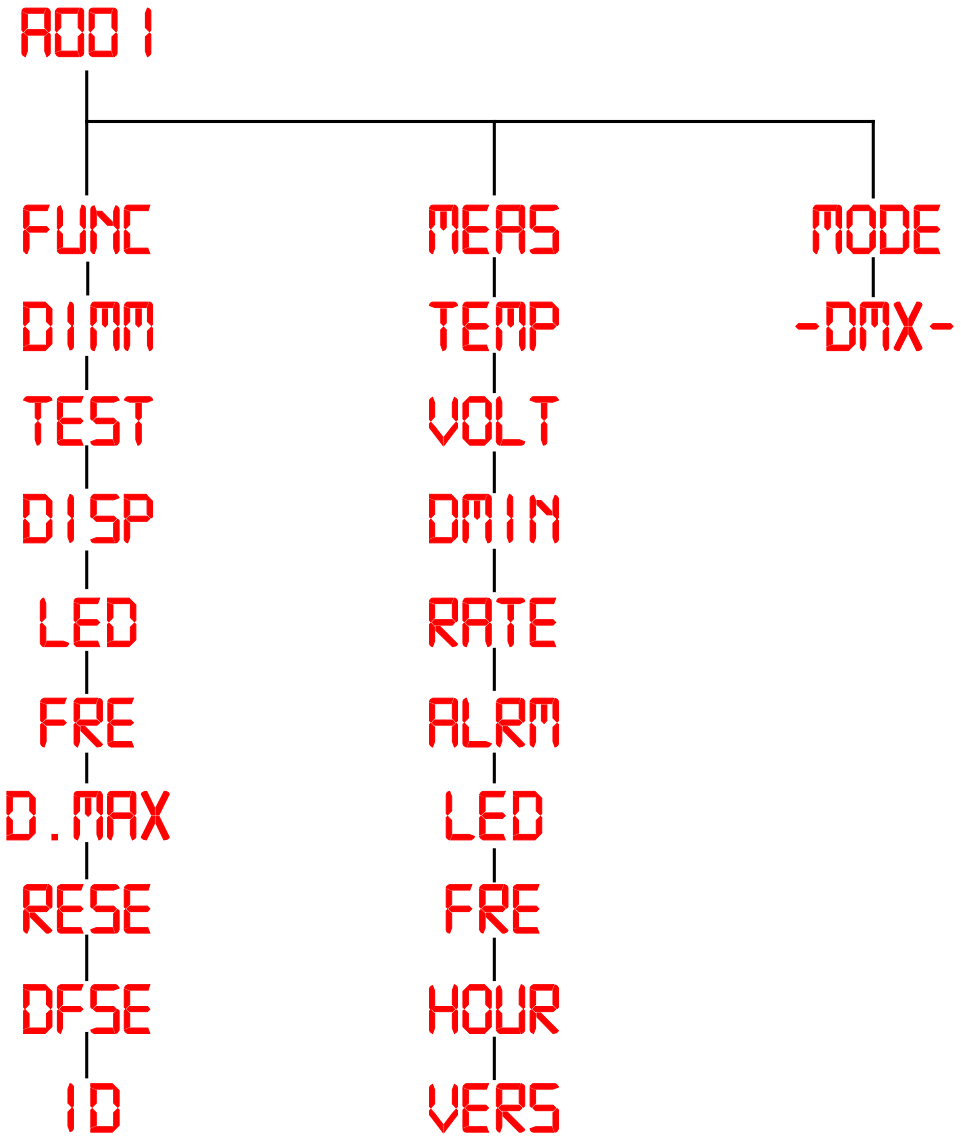
channel	function	type of control	effect	decimal				percentage		
1	master dimmer	proportional	adjust luminous output intensity from 0 to 100%	0	-	255		0%	-	100%
2	spare channel	step	no effect	0	-	255		0%	-	100%
3	dimmer fine	step	no effect	0	-	9		0%	-	4%
		proportional	fine dimmer control 16 bit.	10	-	255		4%	-	100%
4	strobe	step	no effect	0	-	9		0%	-	4%
		proportional	variable speed strobing effect, from slow to fast	10	-	57		4%	-	22%
		step	stop strobe	58	-	59		23%	-	23%
		proportional	sequenced pulse effect, slow closing, fast opening(variable speed pulsing, from slow to fast)	60	-	108		24%	-	42%
		step	stop strobe	109	-	110		43%	-	43%
		proportional	sequenced pulse effect, fast closing, slow opening (variable speed pulsing, from slow to fast)	111	-	159		44%	-	62%
		step	stop strobe	160	-	161		63%	-	63%
		proportional	random strobe effect with variable speed from slow to fast, syncronised colors.	162	-	207		64%	-	81%
		step	stop strobe	208	-	209		82%	-	82%
		proportional	random strobe effect with variable speed from slow to fast, non syncronised colors.	210	-	255		82%	-	100%
5	special functions	step	600 Hz	0	-	9		0%	-	4%
			park, no effect	10	-	133		4%	-	52%
			LCD display off	134	-	185		53%	-	73%
			LCD display on	186	-	199		73%	-	78%
			LED control frequency tuning 1000Hz	200	-	205		78%	-	80%
			LED control frequency tuning 1500Hz	206	-	211		81%	-	83%
			LED control frequency tuning 2000Hz	212	-	217		83%	-	85%
			LED control frequency tuning 2500Hz	218	-	223		85%	-	87%
			LED control frequency tuning 3000Hz	224	-	229		88%	-	90%
			LED control frequency tuning 3500Hz	230	-	235		90%	-	92%
			LED control frequency tuning 4000Hz	236	-	241		93%	-	95%
			LED control frequency tuning 4500Hz	242	-	247		95%	-	97%
			LED control frequency tuning 5000Hz	248	-	255		97%	-	100%
	Fixture: Ledko P		**Table name: DMX 512 functions**							
		Edizione: 0	**Data: 03/05/2012**							

8. Display panel functions

By suitably using all the functions of **Reflection LEDko P**, which can be activated through its display panel, it is possible to change some of the parameters and to add some functions.
Changing the preset settings made by **Coemar** can vary the functions of the projector so that it will respond differently to the controller; therefore carefully read about the functions described here before carrying out any possible selection..

8.1 Quick guide to menu

In order to access the functions, just press the menu button: press the key + or – to scroll pages. To select the desired function, press *enter* key.

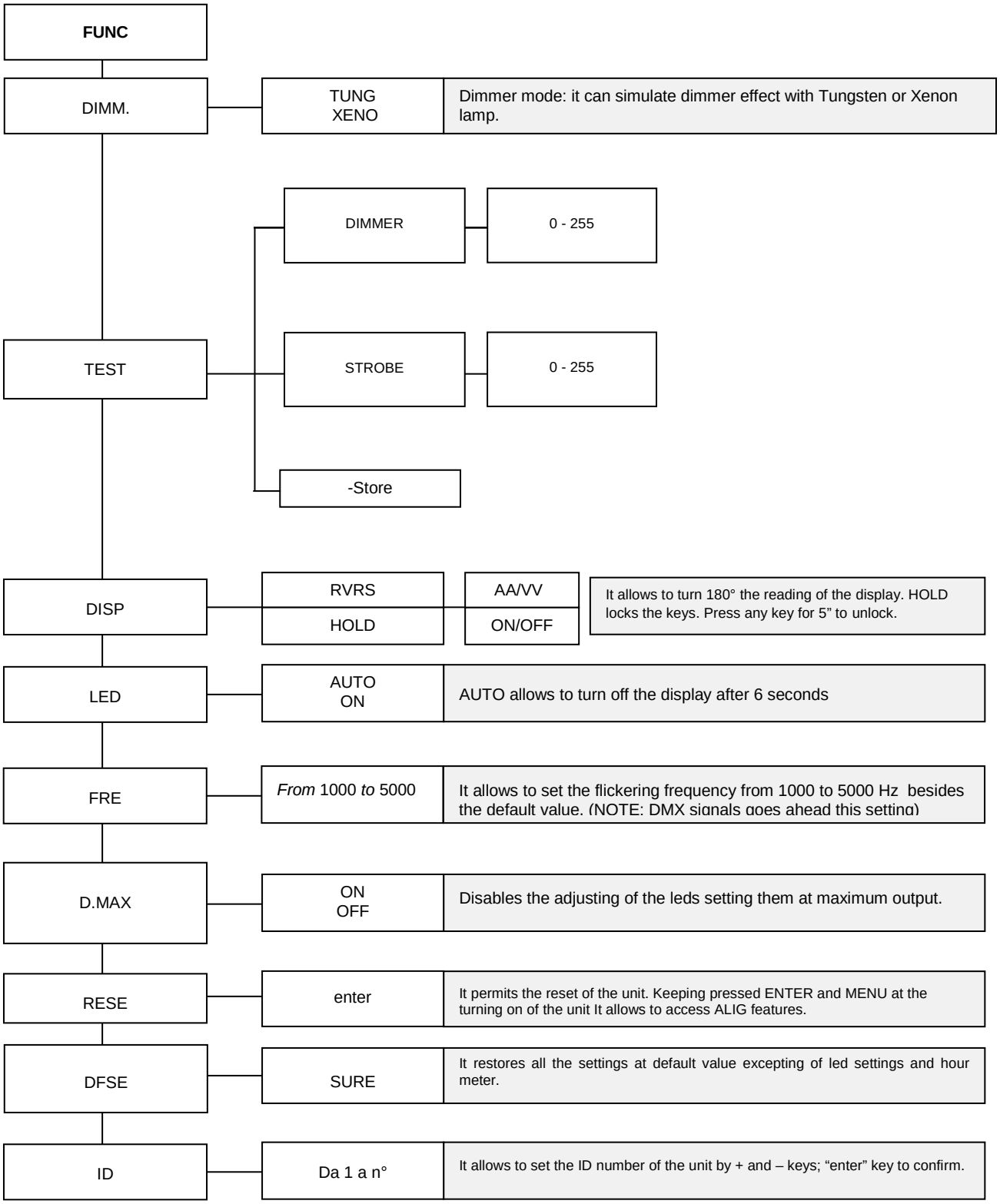


8.2 Rapid count

By the display panel of **Reflection LEDko P** It is possible to quickly change the various numbers displayed for the different functions in the following 3 manners:
1.Pressing the + or – buttons will cause the count to be quicker.
2.Pressing first + and then – and then holding them down simultaneously will cause the numbers to jump to the highest value.
3.Pressing first – and then + and then holding them down simultaneously will cause the numbers to jump to the lowest value.

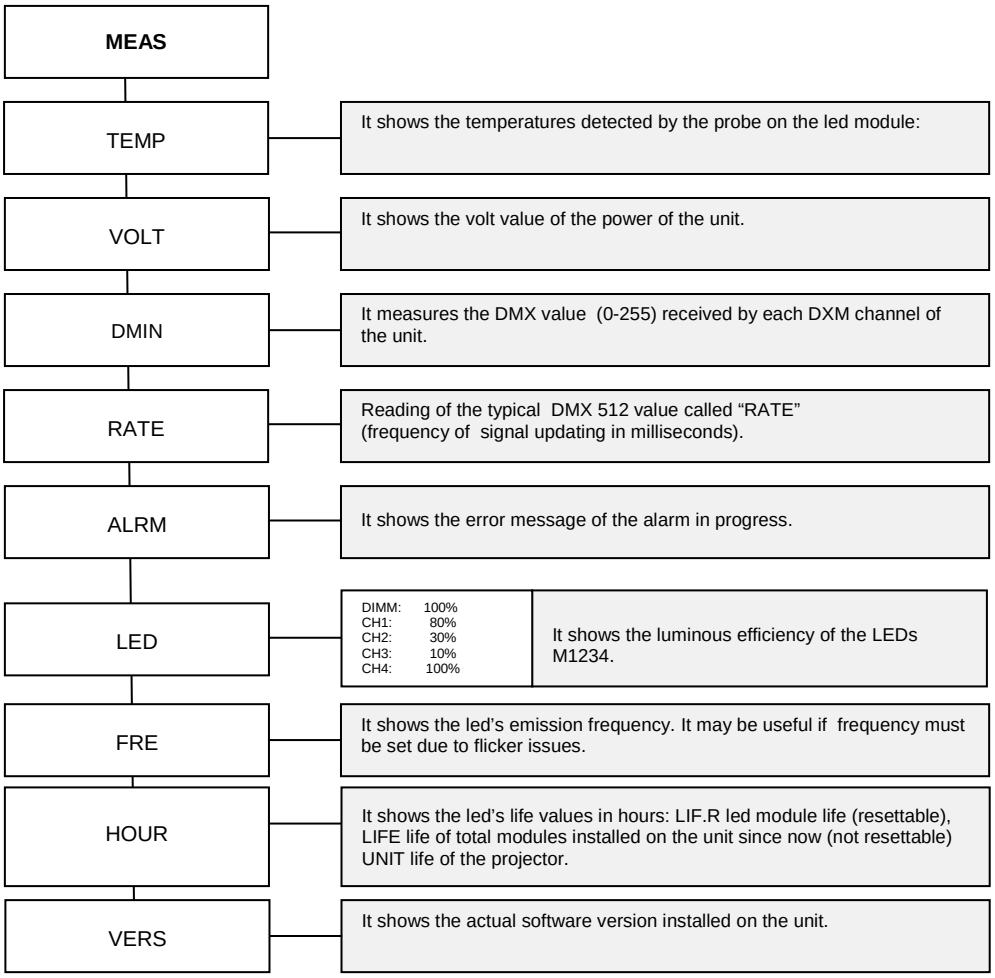
8.3 Main function menu (FUNC)

The projector gives the opportunity to change and customize some functional settings.

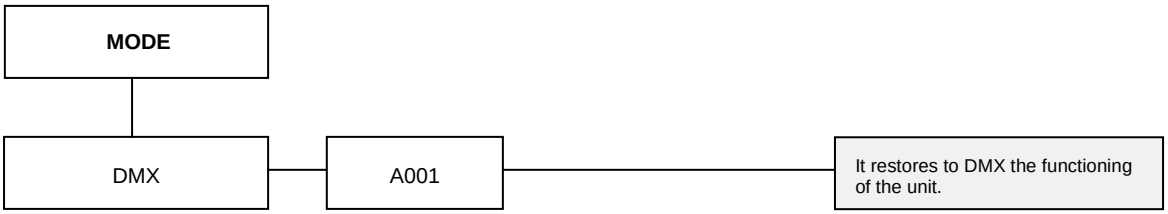

FUNC
DIMM.
TUNG
XENO
Dimmer mode: it can simulate dimmer effect with Tungsten or Xenon lamp.
TEST
DIMMER
0 - 255
STROBE
0 - 255
-Store
DISP
RVRS
HOLD
AA/VV
ON/OFF
It allows to turn 180° the reading of the display. HOLD locks the keys. Press any key for 5" to unlock.
LED
AUTO
ON
AUTO allows to turn off the display after 6 seconds
FRE
From 1000 to 5000
It allows to set the flickering frequency from 1000 to 5000 Hz besides the default value. (NOTE: DMX signals goes ahead this setting)
D.MAX
ON
OFF
Disables the adjusting of the leds setting them at maximum output.
RESE
enter
It permits the reset of the unit. Keeping pressed ENTER and MENU at the turning on of the unit It allows to access ALIG features.
DFSE
SURE
It restores all the settings at default value excepting of led settings and hour meter.
ID
Da 1 a n°
It allows to set the ID number of the unit by + and – keys; "enter" key to confirm.

8.4 Measures and test s(MEAS)

The internal microprocessor of Reflection LEDko P allows for several diagnostic and output paramenter to be displayed.


MEAS
TEMP
It shows the temperatures detected by the probe on the led module:
VOLT
It shows the volt value of the power of the unit.
DMIN
It measures the DMX value (0-255) received by each DXM channel of the unit.
RATE
Reading of the typical DMX 512 value called “RATE” (frequency of signal updating in milliseconds).
ALRM
It shows the error message of the alarm in progress.
LED
DIMM: 100%
CH1: 80%
CH2: 30%
CH3: 10%
CH4: 100%
It shows the luminous efficiency of the LEDs M1234.
FRE
It shows the led’s emission frequency. It may be useful if frequency must be set due to flicker issues.
HOUR
It shows the led’s life values in hours: LIF.R led module life (resettable), LIFE life of total modules installed on the unit since now (not resettable) UNIT life of the projector.
VERS
It shows the actual software version installed on the unit.

8.5 User settings (MODE)



8.6 Connecting DR1 and DR1 Plus

All features are available in the menu can also be activated by DR1 (code CO9707) and DR1 Plus (cod.CO9709). DR1 and DR1 Plus is a tool designed for technicians who can operate the apparatus at the same time the programmer of the show, without having to physically intervene on headlamps, but controlling functions remotely.
For example, DR1 and DR1 Plus eliminates the need to change a DMX address on the unit, (thus avoiding the technical climbing on the structure) and can read hours of lamp life and other functions normally accessible from the display. DR1 and DR1 Plus also allows updating the firmware of the projectors.
To enable a projector to work with DR1 or DR1 Plus, you must set each unit of the line with its own, unique identity number (ID).

WARNING !
- If you set as identification number "0 ", Reflection LEDko P will not be recognized by DR1 and DR1 Plus
- Never assign the same ID to two or more units of a same DMX line. This causes the failure of the system. (DR1 and DR1 Plus will display an error message).

For more information see the manual for DR1 or DR1 Plus.

8.7 Electronic alignment of the leds.

The display panel of **Reflection LEDko P** allows the electronic alignment of the leds, this procedure is performed by Coemar at the time of testing, this procedure may be useful for special effects or in case of replacement of internal components (PCBs, leds, etc. ...). Altering the settings made by Coemar may radically alter the functioning of the projector's functions.
Carefully read the following prior to attempting any changes.

WARNING !
This chapter should be considered for the exclusive use of technicians and qualified personnel.

English

To access alignment function:

Activate the reset holding down the MENU and ENTER for at least 10 seconds while powering on. Screen is then displayed "ALIGN".

WARNING !
The electronic alignment procedure is only possible with DMX512 signal .

See the following diagram to enter in the function's details.

WARNING!
This mode is only achievable by connecting the DMX signal, by keeping pressed MENU and ENTER keys during reset for 10 seconds.

ALIG	MIN. channel 1	LEDs of channel 1 alignment at minimum intensity.
	MAX channel 1	LEDs of channel 1 alignment at maximum intensity.
	MIN. channel 2	LEDs of channel 2 alignment at minimum intensity.
	MAX channel 2	LEDs of channel 2 alignment at maximum intensity.
	MIN channel 3	LEDs of channel 3 alignment at minimum intensity.
	MAX. channel 3	LEDs of channel 3 alignment at maximum intensity.
	MIN channel 4	LEDs of channel 4 alignment at minimum intensity.
	MAX.channel 4	LEDs of channel 4 alignment at maximum intensity.
	EXIT	It stores the settings and exits from the procedure.
UPLD	SURE	It makes the unit ready for the storing of the software on to the PC.
DULD	SURE	It makes the unit ready to receive the software from the PC.
R.HRS	SURE	It allows to reset the resettable meter of the led module, it can be found also under MEASURES menu; It should be reset in case of replacing of the led module.

Note: Simultaneously pressing + and – buttons will return the calibration value to 128 (default).

UPLD Function (Upload)
this function allows to upgrade the firmware of **Reflection LEDko P** only by DR1 or DR1 Plus and a Personal Computer. Read DR1 or DR1 Plus manual for further information.

DULD Function (Download)
this function allows to download the software from **Reflection LEDko P** only by DR1 or DR1 Plus and by a Personal Computer. Read DR1 or DR1 Plus manual for further information.

9. Error messages

If a malfunction occurs, **Reflection LEDko P** has a self-diagnostic system that will show the error message on the display. The following table will explain in detail the most common errors. If, despite of suggested intervention, the problem persists, call the Coemar Service center near you.

Error message	Description and suggested solution.
DTER	DATA error The initial configuration data has failed, the projector has uploaded the default configuration: turn on the projector again and if the error persists, contact your Coemar service to control or replacement EEPROM
ADER	DMX Address Error The projector does not receive all channels of DMX needs to function properly. Check the DMX address indicated on the display and the number of channels generated by the mixer control. We recall in this connection that some controllers do not generate all the 512 channels.

10.Accessories and spare parts

Reflection LEDko P is a very versatile fixture, optional accessories for its customization are available under request:

Coemar order code	Description
AFO9305	Flight case nr. 3 **LEDko P** + nr. 3 Opticals
AFO9306	Flight case nr. 6 **LEDko P**
BC10011A006	Magnetic holder gobo
BC10011A001	Soft Profile PC
BC10011A002	Soft Profile FRESNEL
BC10011A009	Profile Zoom 28°/40°
ACO4201	4 leafs barndoor

All the components of **Reflection LEDko P** are available as spare parts from your Coemar dealer or Service. Accurate description of the fixture, model number and type will assist us in providing for your requirements in an efficient and effective manner

11. Maintenance

11.1 Periodic cleaning

Lenses
Even a fine layer of dust can reduce the luminous output and alter the compactness of the beam. Regularly clean all filters and lenses using a soft cotton cloth, dampened with a specialist lens cleaning solution.

Cleaning of the unit
Use a soft brush or a common vacuum cleaner or a source of compressed air for removing dust. For the cleaning of the housing use a soft cloth and a non-aggressive cleaner. Check that the internal fans and heat exchanger must be perfectly clean.

11.2 Periodic controls

Check the correct working of the mechanical parts and, if needed, replace them. Make sure the projector is not mechanically damaged. If necessary, replace the worn parts.
Electrical components
Check all electrical connections, in particular for correct grounding and correct attachment of all extractable connectors. Press the connectors if necessary and reposition as before.

11.3 Fuses:

Reflection LEDko P has an automatic fuse that in most cases does not need to be replaced.

12. F.A.Q. and answers

The following list shows common issues that may be simply solved. If issues persist, the unit must be repaired by qualified personnel or just contact your Coemar service near you.

Question	Possible cause	Suggested solution
Reflection LEDko P does not power on.	-Projector not powered on:	1-Make sure the power cord is plugged in or test the input voltage.
Reflection LEDko P does not answer to DMX signal.	DMX signal may not reach **Reflection LEDko P**.	Inspect the cable connection, correct poor connections or inefficient repair or replace damaged cables. Check DMX address of the unit.
Reflection LEDko P is not recognized by DR1 Plus.	ID set to 0 or another unit in the chain is set with the same number.	Set an ID number different from 0 and from any other unit in the chain.

	Information on disposal of the equipment
	The equipment at the end of its useful life must be disposed of at an appropriate recycling center for waste electrical and electronic equipment. The treatment and disposal of environmentally friendly, helps prevent potential negative environmental and health and promote the reuse and / or recycling of materials making up the equipment. Illegal disposal by the user includes the application of administrative sanctions provided by law.

Our equipment has been manufactured and assembled by the rules and the essential requirements of the RoHS directive, so the materials we use and electronic subassemblies that we receive from our suppliers have been checked and are produced in compliance with the Directive in question.

Reference	Title
2004/108/EC	Directive of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC (EMC)
2006/95/EC	Directive of the European Parliament and the Council of 12 December 2006 on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits (LVD)
2002/95/EC	Directive of the European Parliament and the Council of 27 January 2003 on the restriction of certain hazardous substances in electrical and electronic equipment (RoHS)
2002/96/EC & 2003/108/EC	Equipment Directive of the European Parliament and the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE)

CE

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